

**10<sup>th</sup> National Bioethics Conference**  
**A pre-conference training and peer engagement workshop**  
**On**  
**Artificial Intelligence (AI) in Healthcare:**  
**Learning together towards responsible AI**

Being co-hosted by  
Indian Institute of Technology Madras (IITM),  
Forum for Medical Ethics Society (FMES) and *Indian Journal of Medical Ethics (IJME)*, and  
Christian Medical College Vellore (CMC Vellore)

**Date:** Tuesday-Wednesday, January 28-29, 2025 | **Mode:** In-person  
**Venue:** Seminar Hall, Block-1, Department of Biotechnology, IIT Madras, TN, India  
**Time:** 0900 to 1730hrs

**Session themes and synopses**

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Day 1   Tuesday, January 28, 2025	
<b>Session II</b> 0945 - 1015 hrs (30 mins)	<b>Inaugural speech 1  </b>  <b>AI and digital technologies development in academic settings and beyond: An Overview of AI in Healthcare – A Clinician’s perspective</b>

**An Overview of AI in Healthcare: A clinician’s perspective**

**Session faculty:** Krishnan Ganapathy

**Synopsis:** *There is many a slip between the cup and the lip.* In the last 3 years, there has been a large number of publications and media attention to the terms **AI in Healthcare**. Differentiating hype from critical analysis, with unequivocal clinical evidence that deployment of AI has indeed made a significant difference in the immediate and long-term clinical outcome of the individual patient is an ongoing process. Most publications and talks deal with technical details of AI, justifying and building a use case for deployment of AI in healthcare. The limitations and apprehensions are often not Center Stage.

This presentation will reflect the views of the clinician - the end user in the real world! Reviewing actual use cases, the advantages, limitations, and concerns will be addressed. Difficulties faced by the clinician in addressing ethical issues, regulatory, medico legal concerns including liability and accountability: will be touched upon. The question “So what?” is not given the importance it deserves. The pressure to use AI from **all stakeholders** in the eco system is so much, that often we do not wait for evidence, that this additional intervention, has indeed made a difference. We forget that for a clinician, technology should be a means to achieve an end not an end by itself. Clinicians are worried about the impact of AI on the hitherto sacrosanct doctor-patient relationship. Algorithmic Bias and inadvertent discrimination against certain patient groups cannot be ignored.

**Take Home message:** While recognizing transformative potential of AI in healthcare, doctor's concerns can significantly impact adoption and effective use of AI. For the doctor to be a Healthcare AI evangelist *par excellence*, and espouse the cause he/ she must be involved at the very beginning and non-technical concerns also addressed!

Day 1   Tuesday, January 28, 2025	
<b>Session III</b>  1115 - 1140 hrs (25 mins)	<b>Learnings from health-AI technology development cases  </b>  <b>Case 1   AI model for precise detection of gestation age to predict pre-term birth: Responding to the issue of pre-term births, reducing maternal and child mortality in India: What, how, and why?</b>

**Session faculty: Himanshu Sinha**

**Synopsis:** India ranks among the top countries in terms of preterm births and complications related to preterm birth. To address this issue, we collaborated with clinical partners to develop gestational age models for the Indian subcontinent. In this presentation, I will briefly describe the process of creating these models and emphasise the necessity of validating them across India. Additionally, I will discuss other digital public goods we have developed to improve infant health. Finally, I will highlight some of the challenges we encounter when deploying AI models in clinical practice and outline our plans to address these challenges.

Day 1   Tuesday, January 28, 2025	
<b>Session III</b>  1205 - 1230 hrs (25 mins)	<b>Learnings from health-AI technology development cases  </b>  <b>Case 3   AI assisted bio-photonics for medical diagnosis</b>

**Session faculty: Sujatha N**

**Synopsis:** Applications of light-based technologies are highly appreciated in devising non-invasive diagnostic tools based on light-tissue interactions. Alternatively known as optical biopsy, biophotonic technologies reveal the structural and functional details of the biological sample in real-time, thus speeding up the entire diagnostic process. Integrating artificial intelligence in biophotonics has revolutionized the application of such techniques for accurate quantitative tissue analysis. This talk will elaborate on the research in the biophotonics lab, IITM, in this vertical, focusing on the current and future prospects.

Day 1   Tuesday, January 28, 2025	
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<b>Governance matters towards responsible health-AI technology (Part 1) (Part 2 is on Day 2   Session X)</b>	
<b>Session IV</b> <b>Segment 2</b> 1415 – 1445 hrs (30 mins)	<b>AI Governance framework for India: An indigenous approach rooted in the broader ‘less than perfect’ ecosystem of AI development and deployment in India</b>

**Session faculty: Shambhavi Naik and Bharath Reddy, Takshashila Institution, Bengaluru**

**Synopsis:** The governance of AI-enabled healthcare must address various tensions, such as balancing data access with privacy protection, improving work efficiency with potential job losses, and weighing technological benefits against costs. Different AI applications in healthcare encounter these challenges to varying degrees, requiring tailored governance measures.

Understanding market failures and identifying public interests can help establish broad governance priorities. Additionally, analyzing specific tasks impacted by AI over different time horizons makes risks and opportunities more concrete. Such analysis highlights governance opportunities like creating better datasets, building accountability in healthcare systems, and upskilling medical personnel to improve healthcare outcomes.

As AI develops along with other technologies in the healthcare space, periodic reviews will be needed to assess their impacts holistically rather than individually. A short, medium and long-term outlook for integrating AI, contextualised to India, would be essential to understand the underlying ethical concerns and unintended consequences and to effectively manage the risks its application may bring about.

<b>Day 1   Tuesday, January 28, 2025</b>	
<b>Health-AI technologies   Legal and regulatory landscape of India</b>	
<b>Session V</b> <b>Segment 2</b> 1600 – 1700 hrs (60 mins)	<b>The DPDP Act 2023 and appreciating interfacing of law, regulations, ethics, and human rights: A deep dive</b>
<b>1700 – 1300 hrs</b>	<b>Discussion time for Segment 1 and 2 together</b>

**Session faculty: Shivangi Rai and Shefali Malhotra, Centre for Health Equity, Law & Policy (C-HELP), Indian Law Society (ILS), Pune**

**Synopsis:** The first part of the session will focus on India's Digital Personal Data Protection Act (DPDPA), 2023 and the interlinkages between data protection and artificial intelligence. The relationship between data protection laws and artificial intelligence is crucial for ensuring ethical and responsible technology use. The DPDPA establishes the law for handling personal data, emphasizing individuals' rights and informed consent. As AI systems often rely on large datasets, compliance with these regulations is essential to protect privacy and prevent misuse of sensitive information. The session will discuss how and to what extent the DPDPA regulates and provides guidance on the adoption of AI in the health sector.

The session will also focus on the legal, ethical, equity, and human rights issues raised by the adoption of artificial intelligence tools in the health sector that must be addressed to ensure responsible use. Key issues include data privacy, informed consent, black-box AI and the potential for bias in AI algorithms, which can exacerbate health disparities. Transparency and explainability are crucial, as healthcare providers and patients must understand AI decision-making processes to foster trust. Additionally, accountability for AI-driven outcomes raises questions about liability and responsibility in patient care. In this context, the session will discuss issues of data quality, transparency, explainability and accountability as vital for AI models. The session will be rounded up by discussing the available ethical guidelines for AI in India and also provide a comparative law perspective on emerging regulatory approaches of AI in some countries.

Day 1   Tuesday, January 28, 2025	
<b>Session V</b> 1515 - 1600 hrs (45 mins)	<b>Health-AI technologies   Legal and regulatory landscape of India</b>  <b>Health-AI players navigating through the uncertainty to meet legal and regulatory obligations</b>

**Session faculty: Krishna Ravi Srinivas**

**Synopsis:** In this talk the challenges in governing AI in Health/Health-AI and how this is related to AI governance is highlighted. Given the sensitivity and importance of data in Health AI clarity on that ground is necessary. But as Health-AI is an emerging field there is lack of clarity and practical issues to be addressed in this, balancing interests of multiple stakeholders. In the first part I present an overview of the Health AI developments globally in terms of legal and regulatory frameworks. I point out that while the legal and regulatory frameworks are yet to catch up with technological developments; this is not unique to Health AI or for that matter AI. Data governance on the other hand is mediated by many other factors including trade and norms governing storing and accessing data. Stronger data protection regimes like GDPR have impacted governance of health data. Still the global scenario in health data governance is far from clear.

In the second part I present the current regulations in India, including the draft rules of DPDP Act and point out that we have to conceptualize governance of Health AI as part of broader governance of AI

taking into account specificities of Health AI. I argue that irrespective of ‘weak’ or ‘stringent’ governance norms for AI, health AI needs a governance regime that is value based, respectful of privacy and balancing interests of stakeholders. I outline some elements of such a framework highlighting that governance frameworks will have to think of evolving ones, and suggest that anticipatory governance can be helpful in developing such a framework.

In the third part I point out that while regulation of Health AI in India has to meet specific needs and contexts of India it can be more meaningful and relevant only if it imbibes the best practices and values from other regulatory models and adopts Responsible AI as the guiding norm. The challenge lies in developing a suitable Responsible AI in Health AI and this can be met.

Day 2   Wednesday, January 29, 2025	
<b>Session VI</b> 0930 – 1015 hrs (45 mins)	<b>Multistakeholder perspectives regarding backend processes, challenges, and opportunities: Insights from pan-Indian empirical research</b>

## AI for Healthcare: Understanding Data Supply Chain and Auditability in India

**Session faculty: Amrita Sengupta and Shweta Mohandas**

**Synopsis:** The use of artificial intelligence (AI) technologies constitutes a significant development in the Indian healthcare sector, with industry and government actors showing keen interest in designing and deploying these technologies. Even as key stakeholders explore ways to incorporate AI systems into their products and workflows, a growing debate on the accessibility, success, and potential harms of these technologies continues, along with several concerns over their large-scale adoption. A recurring question in India and the world over is whether and how these technologies serve a wider interest in public health. The emergence of AI auditing mechanisms is an essential development in this context, with several stakeholders ranging from big-tech to smaller startups adopting various checks and balances while developing and deploying their products.

Through this workshop we will share the findings of our recently published report, which aims to understand the prevalence and use of AI auditing practices in the healthcare sector. This presentation, drawing on a pan-India multistakeholder empirical research, looks at how different stakeholders in the healthcare ecosystem are involved in AI development and deployment, and the challenges and opportunities as experienced by them. The presentation will focus on a few key questions:

- ✚ What is the current data supply chain infrastructure for organisations operating in the healthcare ecosystem in India?
- ✚ What auditing practices, if any, are being followed by technology companies and healthcare institutions?
- ✚ What best practices can organisations based in India adopt to improve AI auditability?

This presentation is a result of a mixed methods study, comprising a review of available literature in the field, followed by quantitative and qualitative data collection through surveys and in-depth interviews. The findings from the study offer essential insights into the current use of AI in the healthcare sector, the operationalisation of the data supply chain, and policies and practices related to health data sourcing, collection, management, and use. It also discusses ethical and practical

challenges related to privacy, data protection and informed consent, and the emerging role of auditing and other related practices in the field.

Based on the findings, the presentation of the report offers a set of recommendations addressed to different stakeholders such as healthcare professionals and institutions, AI developers, technology companies, startups, policymakers, academia, and civil society groups working in health and social welfare.

Day 2   Wednesday, January 29, 2025	
<b>Session VIII</b> <b>Segment 2</b> 1130 - 1245 hrs (75 mins)	<b>AI health care technologies: Critical insights from ethics and human rights perspectives</b>

### **Coding Care: Problematising AI Healthcare Technologies from Ethics & Human Rights Perspectives**

**Session faculty: Drs Manjulika Vaz, Sayantan Datta, and Sunita Sheel**

**Synopsis:** In this session, we draw upon the learnings from the sessions concluded so far in this peer learning workshop. We centre-stage complexities involved in appreciating and operationalising the ethics guidance by multidisciplinary stakeholders engaged with AI in general and health-AI in particular. Operationalising, and implementing ethics related guidance/guidelines is further complicated by the essentiality and inevitability of us having to negotiate with context specific matters. Broader socio-cultural contexts; legal dimensions/ quagmire; the broader healthcare ecosystem in which health-AI operates; commercial stakes of health-AI investors-developers; the overall healthcare and technology related policy environment; and lesser opportunities and work environments for much needed collaborative and multidisciplinary pursuits in AI spaces.

Against this backdrop, we discuss how to appreciate the role of ethics and human-rights perspectives in making AI healthcare technologies right and more responsible. Using case studies inspired by real-life examples, we will work with participants to explore how the effective deployment of AI technologies in healthcare settings requires consideration of several factors, including but not limited to socio-cultural, legal, & commercial contexts. In analyzing these cases, we draw upon learnings from how healthcare technologies have played out in the past and discourses on technology in social sciences and humanities.

We briefly touch upon the unique features of AI technologies, their implications in terms of challenges and opportunities, and the idea of 'safety-critical AI'. We also look at some foundational concepts, such as digital commons, data ownership & custodianship, and the idea of 'public good' that is central to the discourse on public health ethics. Finally, we dwell on ethics of data acquisition, storage, and sharing, and the potential adverse effects of biases in training data corpuses on marginalized communities, particularly transgender persons and people with disabilities. We lead the conversation to reflect on the need for robust quality standards for data corpuses

We argue that for AI healthcare technologies to be effective, person centred, and useful for all, collaborative development and deployment of such technologies is critical as an ethical obligation. Within this domain of ethical obligations, we discuss the allied ethical obligation of community and public engagement as mechanisms both to pre-empt problems of exclusionary health-AI. .

Overall, the session is aimed at bringing to the fore conceptual conflicts; and is designed to create space for asking inconvenient questions, raising provocative doubts, presenting staunch skepticism by problematizing real-life scenarios in this space. The idea is to carry back both learnings from the conversations at the workshop, and many questions to think through every time we work with AI, and health-AI related works.

<b>Day 2   Wednesday, January 29, 2025</b>	
<b>Learnings from health-AI technology deployment cases (Part 2)</b>	
<b>Session IX</b> 1345 – 1430 hrs (45 mins) (30 + 15 mins)	<b>Public health-AI technologies: Experiences from the ground</b>

**Case 2 | AI interventions to respond to pressing public health matters: Maternal and child health**

**Session faculty: Dr Amrita Mahale**

Talk themes:

- a. How to use a 'Responsible AI' framework to design and deploy AI-based solutions for social impact
- b. Case studies on how ARMMAN has deployed AI in our programs
- c. Challenges we have faced and the mitigation strategies we have adopted

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